

# NONDESTRUCTIVE TESTING (NDT) RESEARCH AND ENGINEERING LAB

## LABORATORY INFORMATION FACT SHEET

U.S. ARMY ARMAMENT  
RESEARCH, DEVELOPMENT  
AND ENGINEERING CENTER

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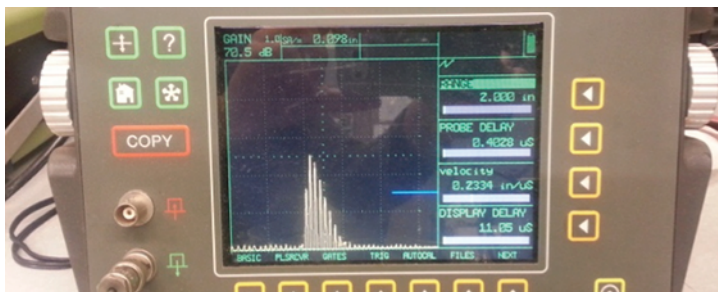
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*The Nondestructive Testing (NDT) Research and Engineering Laboratory provides subject matter expertise in evaluating a variety of products without changing or altering the product's geometry or material properties, in an effort to search for the presence or absence of discontinuities that may affect the usefulness of that product.*

### TECHNOLOGY/FACILITY DESCRIPTION:

The laboratory provides Research and identification of the most appropriate NDT method for munition and armament system components, and development of the Tech Data Package (TDP) requirements necessary to achieve a contractor repeatedly and reliably performs those inspections. Selecting the appropriate method is based on factors such as material, geometry of the part, defect characteristics, and access to surfaces. These methods are unlike destructive testing (such as Charpy tests, Rockwell Hardness tests, etc.), in that it allows inspection without interfering with a product's final use. Therefore NDT provides an excellent balance between quality and cost-effectiveness. The NDT mission is to find defects in parts before products reach the Warfighter. Testing occurs on parts for various sized weapons, munitions and vehicles. Parts can be at different stages in the manufacturing process, including, pre/final machining or pre/post coatings. Fielded and experimental commodities undergo NDT as well.



### EQUIPMENT AND EXPERTISE AVAILABLE:

- Ultrasonic Testing
- Magnetic Particle Inspection
- Eddy Current Testing
- Penetrant Testing
- Conductivity Testing
- Audit CONUS and OCONUS Vendors/NDI Facilities
- Applied R&D in NDT
- Detect internal or external imperfections
- Determine structure, composition or properties
- Measure geometric characteristics
- Writes technical requirements for NDT equipment specifications and Statements of Work (SOW)
- Works with NDT equipment vendors to develop new inspection equipment
- Designs calibration standards for automated NDT equipment
- Prove-out testing of NDT equipment
- Reviews/approves contractor NDT documents for AAIE/AIE and FAT
- Publishes papers and delivers briefings on specific NDT method advantages, limitations, success and issues on programs